

Abstract of the Disclosure

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~~In a brake apparatus of the present invention, as MCY pressure is developed by a master cylinder (MCY) 1 according to the forward movement of a primary inner piston 9, a pump of a braking force control device arranged between the MCY 1 and wheel cylinders (WCYs) sucks up hydraulic fluid from the MCY 1 to discharge the hydraulic fluid to the WCYs. Thus, WCY pressure controlled according to operational conditions of various modes is developed. The WCY pressure is supplied to a control pressure chamber 40 to act on a step 8e of a primary outer piston 8. The primary outer piston 8 moves relative to the primary inner piston 9 in such a manner that the force produced by the MCY pressure, the force produced by the WCY pressure, the spring force of a control spring 13, and the frictional force of fluid-tightly slidable portions of the primary outer piston 8 are balanced, whereby the pedal travel can remain the same as that in service braking mode. Therefore, the travel of input side can be modulated or compensated to be equal to the travel in the service braking mode.~~

In a brake apparatus, as MCY pressure is developed by a master cylinder (MCY) according to the forward movement of a primary inner piston, a pump of a braking force control device arranged between the MCY and wheel cylinders (WCYs) sucks hydraulic fluid from the MCY to discharge the hydraulic fluid to the WCYs. Thus, WCY pressure controlled according to operational conditions of various modes is developed. The WCY pressure is supplied to a control pressure chamber. The primary outer piston moves relative to the primary inner piston in such a manner that the forces produced by MCY pressure, WCY pressure, control spring, and frictional force of slidable portions of the primary outer piston are balanced, whereby the pedal travel can remain the same as that in a service braking mode. The travel of input side can be modulated to be equal to the travel in the service braking mode.